



A full multi-function calibrator at a very competitive price with excellent accuracy best describes the MC-1000. The MC-1000 combines the accuracy and functions of our next generation PTC-8000 temperature calibrator with V/mA and frequency functions added. The performance level is twice that of similarly priced products and will calibrate virtually any process device.

The MC-1000 also combines several DMM functions like voltage measurement to 250 V AC or DC and a continuity test function. This combination of a high accuracy calibrator along with common DMM functions makes the MC-1000 the only instrument you may ever need to maintain and calibrate your instrumentation.

Fluke 700 Series Pressure Modules Available From Martel

Fluke offers 29 Pressure Modules that are compatible with the Martel MC-1000 Multifunction Calibrator. All that is needed is a Martel connector/adaptor (part #700MA). Gage, differential, dual (compound), absolute and vacuum modules are available to cover virtually any pressure application. Rugged cases protect the modules from harsh conditions. Pressure readings update twice per second, and may be displayed in up to 11 different units.

MC-1000

High Accuracy Multi-Function Calibrator

Features

- Excellent accuracy $\pm 0.4^{\circ}\text{C}$ T/C $\pm 0.3^{\circ}\text{C}$ RTD and 0.015% electrical
- Choose either read or source modes
- Operates with external pressure modules
- 10 T/C types; 8 RTD types plus YSI 400 series thermistor (medical applications)
- Full function 4 to 20 mA read, source, simulate and read/power modes with 0.015% reading accuracy
- Source 0 to 20 volts or read 0 to 20 volts with 0.015% of reading accuracy
- Measure 0 to 250 VDC or VAC
- Direct keyboard entry allows for quick output changes
- Store up to nine setpoints for each output function
- RTD function works with all pulsed XMTR's
- RS232 Interface

Each unit includes:

Test leads, carrying case, 4 AA alkaline batteries, NIST Certificate, and instruction manual

General Specifications

Pressure Ranges:	Module Dependent (4 modules available; 0-200" H ₂ O, 30 PSI, 300 PSI, 3000 PSI) Accuracy: $\pm 0.05\%$ of reading ± 2 LSD
T/C Ranges:	J, K, T, E, R, S, N, B, L, U including - 10 to 70mV
RTD Ranges:	Pt 385 (100, 200, 500, 1000 ohms) Pt 392, JIS, Ni120, CU10, YS1400
Ohms Ranges:	0 to 400.00 and 400.0 to 4000.0
mA Range:	0 to 24.000 mA
Voltage:	(Low) Read 0-20.000 VDC Source 0-10.000 VDC (High) Read only 0-250 VDC or VAC
Frequency:	0-1000.0 CPM 0-1000.0 Hz 0-10.00 KHz
Continuity:	0 to 400.0 ohms, audible tone when under 10 ohms
Accuracy:	T/C Type J: $\pm .3^{\circ}\text{C} \pm 10 \mu\text{V}$ ($\pm 0.6^{\circ}\text{C}$ total error) RTD PT100: $\pm .1^{\circ}\text{C} \pm .075 \Omega$ ($\pm 0.3^{\circ}\text{C}$ total error) Ohms (400): $\pm 0.1 \Omega$ Ohms (4000): $\pm 1.0 \Omega$
mA Compliance:	Up to 1000 Ω load
Voltage Drive Capability:	1 mA
RTD IEX-range:	0.01 mA to 3 mA
RTD Frequency Response:	10 mS – works with all pulsed XMTR's
Oper. Temp:	-10°C to 50°C
Storage Temp:	-20°C to 70°C
Loop Power:	4 AA alkaline batteries, 25 hours typical operating time
Size:	7.5" x 4" x 1.5"

MODEL NO.	DESCRIPTION
MC-1000	Multi-Function Calibrator
80029	TC Cable Kit
10077	AA Ni-Cd Batteries (requires 4)
1001-9V	Optional A/C Adapter/Charger
700MA	Martel/Fluke Pressure Adapter

MC-1000 Multi-Function Calibrator

Range & Accuracy

Range	Min	Max	Accuracy (% of reading ± counts)	
V Read (low)	0.000	20.000	0.015% ± 2	
VDC Read (high)	0.0	250.0	0.05% ± 2	
VAC Read (high)	0.0	250.0	0.5% ± 2	
V Source	0.000	10.000	0.015% ± 2	
mV Read	0.00	90.00	0.015% ± 2	
mV Source	0.00	100.00	0.015% ± 2	
mA Read	0.000	24.000	0.015% ± 2	
mA Source	0.000	24.000	0.015% ± 2	
CPM Source	1.0	600.0	± 0.05%	
Hz Source	1	1000	± 0.05%	
KHz Source	1.00	10.00	± 0.25%	
CPM Read	0.0	600.0	0.05% ± 1	
Hz Read	0	1000	0.05% ± 1	
KHz Read	0.00	10.00	0.05% ± 1	
Range	Min	Max	Accuracy	
Ohms Read (low)	0.00	400.00	0.1 ohm	
Ohms Read (high)	400.0	1500.0	0.5 ohm	
	1500.1	4000.0	1.0 ohm	
Range	Min	Max	Excitation Current	Accuracy
Ohms Source (low)	5.00	400.00	0.1 to 0.5 mA	0.15 ohm
	5.00	400.00	0.5 to 3 mA	0.1 ohm
Ohms Source (high)	400.0	1500.0	0.05 to 0.8 mA	0.5 ohm
	1500.0	4000.0	0.05 to 0.4 mA	1.0 ohm
Thermocouple Read and Source (All errors included)				
Range	Min	Max	Accuracy	
J Thermocouple	-200.0	0.0	0.9°C	
	0.0	1200.0	0.6°C	
K Thermocouple	-200.0	0.0	1.1°C	
	0.0	1370.0	0.7°C	
T Thermocouple	-200.0	0.0	1.1°C	
	0.0	400.0	0.7°C	
E Thermocouple	-200.0	0.0	0.8°C	
	0.0	950.0	0.6°C	
R Thermocouple	-20	0.0	2.49°C	
	0	500	1.7°C	
	500	1750	1.3°C	
S Thermocouple	-20	0	2.4°C	
	0	500	1.7°C	
	500	1750	1.4°C	
B Thermocouple	600	800	2.1°C	
	800	1000	1.7°C	
	1000	1800	1.3°C	
L Thermocouple	-200	0.0	0.75°C	
	0.0	900.0	0.6°C	
U Thermocouple	-200	0.0	1.0°C	
	0.0	400.0	0.65°C	
N Thermocouple	-200	0.0	1.4°C	
	0.0	1300.0	0.8°C	
mV Read/Source	-10.00	75.00	0.015% ± .02 mV	

Thermocouple Read and Source			
Range	Min	Max	Accuracy
Ni120 (672)	-80.0	260.0	0.2°C
Pt100 (385)	-200.0	800.0	0.33°C
Pt100(3926)	-200.0	630.0	0.3°C
Pt100(3916)	-200.0	630.0	0.3°C
Pt200(385)	-200.0	630.0	0.8°C
Pt500(385)	-200.0	500.0	0.3°C
	500.0	630.0	0.4°C
Pt1000(385)	-200.0	100.0	0.2°C
	100.0	630.0	0.3°C
Cu10	-100.0	250.0	2.2°C
YSI400	15.00	50.00	0.05°C